(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau

Organization
emational Bureau
OMP



<u> 1 (CANA BANGSUN 18 GODING (URA) BENAN BENAN BENAN 18 ATAH BENAN BANAN BENAN BENAN BENAN BENAN BENAN BURAN BURAN BENAN BENAN</u>

(43) International Publication Date 22 January 2004 (22.01.2004)

PCT

(10) International Publication Number WO 2004/006807 A2

(51) International Patent Classification⁷:

A61F 2/06

(21) International Application Number:

PCT/US2003/021611

(22) International Filing Date:

11 July 2003 (11.07.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/395,180 11 July 2002 (11.07.2002) US 60/421,404 24 October 2002 (24.10.2002) US 60/421,350 24 October 2002 (24.10.2002) US 60/428,803 25 November 2002 (25.11.2002) US

- (71) Applicants (for all designated States except US): UNI-VERSITY OF VIRGINIA PATENT FOUNDATION [US/US]; 1224 West Main Street, Suite 1-110, Charlottesville, VA 22903 (US). SETAGON, INC. [US/US]; 2020 Avon Court, Suite 7, Charlottesville, VA 22902 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): LYE, Whye-Kei [SG/US]; 1060 Ramblewood Place, Charlottesville, VA 22901 (US). REED, Michael, L. [US/US]; 2181

Whippoorwill Road, Charlottesville, VA 22901 (US). WHOLEY, Mark, H. [US/US]; 816 Woodland Avenue, Oakmont, PA 15139 (US).

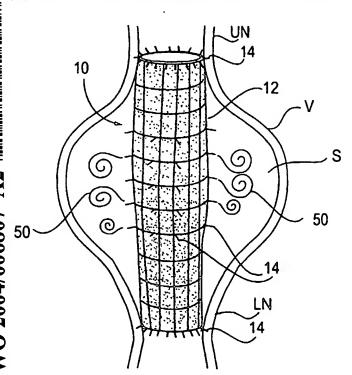
- (74) Agents: THOMPSON, Lynn, M. et al.; Townsend and Townsend and Crew LLP, Two Embarcadero Center, 8th Floor, San Francisco, CA 94111-3834 (US).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

of inventorship (Rule 4.17(iv)) for US only

[Continued on next page]

(54) Title: METHODS AND APPARATUSES FOR REPAIRING ANEURYSMS



(57) Abstract: Apparatuses, systems and methods are provided for repairing aneurysms in the vasculature of a patient. An aneurysm is repaired by positioning a tube or graft within the vasculature, extending through the region of the aneurysm to provide a blood flow conduit similar to the native vasculature. The tube is held in place within the vasculature by at least one expandable body having at least one microstructure. The microstructures are attached to the expandable body in a low profile fashion suitable for atraumatic introduction to the vasculature with the use of a catheter or other suitable device. Each microstructure has an end which is attached to the expandable body and a free end. Once the apparatus is positioned within the vasculature in the desired location, the one or more of the microstructures are deployed so that the free ends project radially outwardly. The free ends of the deployed microstructures then penetrate the blood vessel wall by continued expansion of the body for anchoring, reduction or migration or leakage and/or drug delivery.



Published:

 without international search report and to be republished upon receipt of that report For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.